

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date:

Region: Asheville Regional Office
County: Caldwell
NC Facility ID: 1400228
Inspector's Name: Christopher Scott
Date of Last Inspection: 06/15/2017
Compliance Code: 3 / Compliance - inspection

<p align="center">Facility Data</p> <p>Applicant (Facility's Name): Automated Solutions, LLC</p> <p>Facility Address: Automated Solutions, LLC 621 Virginia Street SW Lenoir, NC 28645</p> <p>SIC: 3086 / Plastics Foam Products NAICS: 32615 / Urethane and Other Foam Product (except Polystyrene) Manufacturing</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>			<p align="center">Permit Applicability (this application only)</p> <p>SIP: 02D .0515, 02D .0521, 02D .1806 NSPS: NESHAP: PSD: PSD Avoidance: 02Q .0317 NC Toxics: 112(r): Other:</p>									
<p align="center">Contact Data</p> <table border="1"> <tr> <td align="center">Facility Contact</td> <td align="center">Authorized Contact</td> <td align="center">Technical Contact</td> </tr> <tr> <td>Richard Boyd Partner (828) 396-9900 PO Box 1068 Sawmills, NC 28630</td> <td>Richard Boyd Partner (828) 396-9900 PO Box 1068 Sawmills, NC 28630</td> <td>Richard Boyd Partner (828) 396-9900 PO Box 1068 Sawmills, NC 28630</td> </tr> </table>			Facility Contact	Authorized Contact	Technical Contact	Richard Boyd Partner (828) 396-9900 PO Box 1068 Sawmills, NC 28630	Richard Boyd Partner (828) 396-9900 PO Box 1068 Sawmills, NC 28630	Richard Boyd Partner (828) 396-9900 PO Box 1068 Sawmills, NC 28630	<p align="center">Application Data</p> <p>Application Number: 1400228.17B Date Received: 04/10/2017 Application Type: Modification Application Schedule: TV-1st Time Existing Permit Data Existing Permit Number: 10460/R02 Existing Permit Issue Date: 10/23/2017 Existing Permit Expiration Date: 09/30/2023</p>			
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<p>Total Actual emissions in TONS/YEAR:</p> <table border="1"> <tr> <td align="center">CY</td> <td align="center">SO2</td> <td align="center">NOX</td> <td align="center">VOC</td> <td align="center">CO</td> <td align="center">PM10</td> <td align="center">Total HAP</td> <td align="center">Largest HAP</td> </tr> </table> <p>No emissions inventory on record. The emissions inventory is due June 30th of every year.</p>					CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
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<p>Review Engineer: Urva Patel</p> <p>Review Engineer's Signature: _____ Date: _____</p>			<p align="center">Comments / Recommendations:</p> <p>Issue 10460/T03 Permit Issue Date: Permit Expiration Date:</p>									

1. Purpose of Application:

Currently, Automated Solutions, LLC holds Air Quality Permit No. 10460R02 for the construction and operation of the facility with an expiration date of September 30, 2023. The primary purpose of this permit application is a First-time Title V permit without modification. The First-time Title V application (**Application No. 1400228.17B**) was received on April 10, 2017 per Condition No. 2.1 A.9. All terms and conditions of the existing permit shall remain in effect until the First-time Title V permit has been issued or denied.

2. Facility Description:

Automated Solutions (AS) is a polyethylene (PE) foam manufacturing facility located in Lenoir, Caldwell County, North Carolina. The following facility process description was provided in the permit application:

The facility manufactures PE foam, which is generally used to protect packaged items such as furniture. PE foam is also used in construction, for example as a vapor barrier and to protect in-ground pool liners. Manufacturing of PE foam involves melting PE in an extruder. A volatile organic compound (VOC)-containing, non-toxic, non-hazardous blowing agent is injected into the melted PE and mixed in the extruder. At the exit end of the extruder is a die. The dies control the thickness and shape of the extruded material. When the PE/blowing agent mixture exits the die, the mixture rapidly expands creating PE foam. Most commonly, PE foam is produced in sheets which are rolled into 50 to 100 pound bundles. During the extruder startup, PE scrap is produced. PE scrap also results from off-specification production and trimming rolls. Scrap is typically ground and extruded to produce PE pellets. The PE pellets are recycled back into the PE foam extruder.

Since 100% emissions are used to determine PE foam line emissions, retained VOC released in reprocessing has already been accounted for. For this reason, the Division of Air Quality has considered PE foam extruding and reprocessing as one emission source.

The maximum design capacity of the PE feed rate for ES-1 is 800 lb/hr and the blowing agent (isobutene) feed rate is 216 lb/hr (1200 lb/hr *0.18). Depending on the thickness of the foam being produced, the blowing agent feed rate can range from 12% to 18%.

The maximum design capacity of the PE feed rate for ES-2 is 1200 lb/hr and the blowing agent (isobutene) feed rate is 144 lb/hr (800 lb/hr *0.18). Depending on the thickness of the foam being produced, the blowing agent feed rate can range from 12% to 18%.

3. History / Background / Application Chronology:

Permit History Since Last Permit Renewal

October 15, 2015	Air Quality Permit No. 10460R00 issued with an expiration date of September 30, 2023.
March 7, 2017	Air Quality Permit No. 10460R01 issued with an expiration date of September 30, 2023.
October 23, 2017	Air Quality Permit No. 10460R02 issued with an expiration date of September 30, 2023.

Application Chronology

April 10, 2017	Received application for First-time Title V.
April 18, 2017	Sent acknowledgement letter indicating that the application for permit modification was complete.
October 6, 2017	In the facility review of draft permit, the facility suggested change in VOC emission Monitoring/Recordkeeping condition.
October 12, 2017	Mr. Christopher Scott (Regional office) agreeable more to general language for VOC emission tracking and estimation. Please, see permit review 10460R02.

4. Summary of Changes to the Existing Permit (Permit No. 10460R00):

Page No.	Section	Description of Changes
Cover Letter	N/A	Update cover letter with application number, permit numbers, dates, fee class, PSD increment statement, and Director name.
Permit Cover	N/A	Insert new issuance and complete application date, application number, facility information.
4	2.1 A.3	<ul style="list-style-type: none">Removal of permit condition and renumbered the remaining conditions accordingly.
5,6	2.1 A.6 2.1 A.7 2.1 A.8 2.1 A.9	<ul style="list-style-type: none">Removal of permit condition as per filing of First-time Title V permit application and renumbered the remaining conditions accordingly.

Page No.	Section	Description of Changes
6	2.2	<ul style="list-style-type: none"> Added condition for Risk Management Plan

5. Compliance Status:

DAQ has reviewed the compliance status of this facility. During the most recent inspection conducted on June 15, 2017, Christopher Scott of the Asheville Regional Office indicated that the facility appeared to be in compliance with all applicable requirements. Additionally, a signed Title V Compliance Certification (Form E5) indicating that the facility was in compliance with all applicable requirements was submitted with Application No. 1400228.17B on April 10, 2017.

Five-year Compliance History:

- There are no documented compliance issues with respect to operations at this facility since it began operation in February 2016.

6. New/Modified Equipment/Changes in Emissions:

This is a First-time Title V permit. No modifications in this permit are necessary.

7. Regulatory Review

Unless specifically noted, a detailed discussion of the following list of equipment and all associated permit conditions is not included as applicability status has not changed. See permit review R00 dated October 15, 2015 and R02 dated October 23, 2017. The permit conditions have been modified to reflect the most current language, as necessary. The facility is expected to be in continued compliance.

A. Polyethylene foam extruder with scrap reprocessing (ID No. ES-1)

1. Applicable Regulatory Requirements:
 - 15A NCAC 02D .0515: Particulate from Miscellaneous Industrial Processes
 - 15A NCAC 02D .0521: Control of Visible Emissions
 - 15A NCAC 02D .1806: Control and Prohibition of Odorous Emissions
 - 15A NCAC 02Q .0317: Avoidance Condition (PSD Avoidance)

8. NSPS, NESHAP/MACT, NSR/PSD, 112(r), CAM

NSPS

This facility is subject to New Source Performance Standards (NSPS), 40 CFR 60. This permit modification does not change this status.

- 40 CFR 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines: Subpart JJJJ is applicable to the natural gas-fired emergency generator (**ID No. I-4**). For detailed information, see permit review R00 dated on October 15, 2015.

NESHAP/MACT

This facility is a minor source for HAPs emissions and is subject to the National Emission Standards for Hazardous Air Pollutants, 40 CFR 63.

- The Permittee is subject to 40 CFR 63, Subpart ZZZZ (National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). This standard for area sources applies to the natural gas-fired emergency generator (**ID No. I-4**). According to 40 CFR §63.6590(c), this generator meets the requirements of 40 CFR 63 Subpart ZZZZ by complying with requirements under 40 CFR 60 Subpart JJJJ for spark ignition engines.

NSR/PSD

The current PSD status is minor. However, with the acceptance of a second 250 tpy avoidance limit, the facility will be classified as **PSD major** as discussed above in Section 7 of this review.

The permit includes a PSD avoidance condition for VOC emissions:

Emission Source(s)	PSD Avoidance Condition for VOC
Polyethylene foam extruder with scrap reprocessing (ID No. ES-1)	< 250 tons per year of VOC emissions
Polyethylene foam extruder with scrap reprocessing (ID No. ES-2)	< 250 tons per year of VOC emissions

The permit includes requirements to calculate VOC emissions based on material usage and submit semi-annual reports of calculations (monthly and yearly).

112(r)

This facility is subject to the requirements of the Chemical Accident Release Prevention Program, Section 112(r) of the Clean Air Act. The facility has the potential to store greater than 10,000 pounds of isobutene for use in this process as blowing agent. The maximum intended storage is 48,000 pounds – process level 3. The facility has submitted a RMP to EPA on October 25, 2016.

Compliance Assurance Monitoring (CAM)

Pursuant to 40 CFR 64.2, the provisions of the Compliance Assurance Monitoring (CAM) rule are applicable to emission units that meet all of the following criteria:

Criteria #1: The unit is subject to an emission limitation AND uses a control device to achieve compliance with the limit;

Criteria #2: The unit has pre-control potential emissions that are equal to or greater than 100% of the amount (in tpy) required for a source to be classified as a major source (i.e., 100 tpy of any criteria pollutant or 10 tpy of any HAP); and,

Criteria #3: The unit is not exempt under 40 CFR 64.2(b).

The following table summarizes CAM applicability at Automated Solutions, LLC:

Emission Unit	Criteria #1: Does the Source Use a Control Device?	Criteria #2: Pre-control PTE \geq 100% of major source thresholds?	Criteria #3: Exempt Under 40 CFR 64.2(b)?	CAM Source?
ES-1	No	Yes (VOC)	VOC: No	No

Therefore, the facility is NOT subject to CAM.

9. Facility-Wide Air Toxics:

The facility is not subject to the requirements of air toxics permitting. Air toxics from the combustion of natural gas in the emergency generator and space heaters are minimal. No unacceptable risk to human health is suggested. No further air toxics evaluation is required at this time.

10. Facility Emission Review:

Based on the potential emissions shown below, this facility is classified as a Title V facility. VOC emissions are referenced from the permit application. VOC emissions are reported as 100% isobutene. This First-time Title V permit does not affect this status.

Pollutant	Expected Actual Emissions	Potential Emissions
VOCs	300 to 366 lb/hr	1576.80 tons/year
PM	0.08 lb/hr	0.35 tons/year
PM ₁₀	0.08 lb/hr	0.35 tons/year
PM _{2.5}	0.08 lb/hr	0.35 tons/year

SO ₂	0.07 lb/hr	0.29 tons/year
NO _x	1.23 lb/hr	5.40 tons/year
CO	0.78 lb/hr	3.41 tons/year
Total HAPs	1.60E-03 lb/hr	14.0 lb/year

11. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521 above. Virginia is an affected state within 50 miles of the facility.

12. Other Regulatory Considerations:

- Permit Application fee is required for Permit Application No. 1400228.17B.
- A P.E. Seal is NOT required for this permit application.
- A zoning consistency determination is NOT required for this permit application.
- A 30-day public notice and 45-day EPA review is required for this application.

13. Recommendations/Conclusion:

DAQ recommends the issuance of Air Permit No. 10460T03 to Automated Solutions, LLC.